Appendix B:
Photos

TRED Study - Environmental Scan Windshield Survey
Photo Log

Photo: 05
Date: 8/1/06
Location: MT 16
Approx MP: 84
Viewing Dir: N
Description: Block management area

Photo: 06
Date: 8/1/06
Location: MT 16
Approx MP: 84
Viewing Dir: N
Description: Viewing north along highway, from just north of MP 84

Photo: 07
Date: 8/1/06
Location: MT 16
Approx MP: 84
Viewing Dir: S
Description: Viewing south along highway, from just north of MP 84

Photo: 08
Date: 8/1/06
Location: MT 16
Approx MP: 82
Viewing Dir: E
Description: Historic farm on east side of highway

Photo: 09
Date: 8/1/06
Location: MT 16
Approx MP: 82
Viewing Dir: S
Description: Water at southwest corner of MT 16 and RD 2052

Photo: 10
Date: 8/1/06
Location: MT 16
Approx MP: 81
Viewing Dir: E
Description: Soil and Water Conservation District Research Farm

Photo: 11
Date: 8/1/06
Location: MT 16
Approx MP: 81
Viewing Dir: E
Description: Soil and Water Conservation District Research Farm

Photo: 12
Date: 8/1/06
Location: MT 16
Approx MP: 79
Viewing Dir: S
Description: Viewing south along highway, from MP 79

TRED Study - Environmental Scan Windshield Survey
Photo Log

Photo: 14
Date: 8/1/06
Location: MT 16
Approx MP: 78
Viewing Dir: W
Description: BOR sign

Photo: 16
Date: 8/1/06
Location: MT 16
Approx MP: 76
Viewing Dir: W
Description: Froid Cemetery

Photo: 17
Date: 8/1/06
Location: MT 16
Approx MP: 76
Viewing Dir: E
Description: Historic farm, RD 2046, south of Froid

Photo: 18
Date: 8/1/06
Location: MT 16
Approx MP: 76
Viewing Dir: S/SE
Description: Bridge near MP 76

Photo: 19
Date: 8/1/06
Location: MT 16
Approx MP: 76
Viewing Dir: S/SE
Description: Fjeseth Field, Froid

Photo: 20
Date: 8/1/06
Location: MT 16
Approx MP: 75.5
Viewing Dir: E
Description: Kvile Cemetery, north side of Froid

Photo: 21
Date: 8/1/06
Location: MT 16
Approx MP: 67.5
Viewing Dir: W
Description: Old barn

Photo: 22
Date: 8/1/06
Location: MT 16
Approx MP: 66
Viewing Dir: N
Description: Crossing at Medicine Lake Wildlife Refuge

TRED Study - Environmental Scan Windshield Survey
Photo Log

Photo: 23
Date: 8/1/06
Location: MT 16
Approx MP: 66
Viewing Dir: N/NE
Description: Medicine Lake Wildlife Refuge

Photo: 24
Date: 8/1/06
Location: MT 16
Approx MP: 66
Viewing Dir: N/NW
Description: Medicine Lake Wildlife Refuge

Photo: 25
Date: 8/1/06
Location: MT 16
Approx MP: 65.5
Viewing Dir: E
Description: Welcome sign at Refuge

Photo: 26
Date: 8/1/06
Location: MT 16
Approx MP: 65.5
Viewing Dir: S
Description: Refuge

Photo: 30
Date: 8/1/06
Location: MT 16
Approx MP: 64
Viewing Dir: W
Description: Herman Oil, Medicine Lake

Photo: 31
Date: 8/1/06
Location: MT 16
Approx MP: 62.5
Viewing Dir: W
Description: Farmstead, at intersection with Flandem Rd.

Photo: 32
Date: 8/1/06
Location: MT 16
Approx MP: 61.75
Viewing Dir: W
Description: Oil tanks and sludgy pond

Photo: 34
Date: 8/1/06
Location: MT 16
Approx MP: 62.5
Viewing Dir: E
Description: Flandrem – original site of Medicine Lake

TRED Study - Environmental Scan Windshield Survey
Photo Log

Photo: 35
Date: 8/1/06
Location: MT 16
Approx MP: 62.5
Viewing Dir: E
Description: Flandrem – original site of Medicine Lake

Photo: 37
Date: 8/1/06
Location: MT 16
Approx MP: 56
Viewing Dir: S
Description: Reserve Creek between MT 16 and Reserve, from bridge on MT 258

Photo: 40
Date: 8/1/06
Location: MT 16
Approx MP: 52
Viewing Dir: W
Description: Wetlands, south of MP 52

Photo: 42
Date: 8/1/06
Location: MT 16
Approx MP: 50
Viewing Dir: NE
Description: Northeast corner of Davis and Railroad, Antelope

Photo: 44
Date: 8/1/06
Location: MT 16
Approx MP: 50
Viewing Dir: E
Description: Along Davis Rd in Antelope

Photo: 46
Date: 8/1/06
Location: MT 16
Approx MP: 49
Viewing Dir: W
Description: Historic home

Photo: 47
Date: 8/1/06
Location: MT 16
Approx MP: 42
Viewing Dir: NW
Description: Northwest corner of MT 16 and Main, Plentywood

Photo: 48
Date: 8/1/06
Location: MT 16
Approx MP: 42
Viewing Dir: W
Description: Plentywood, viewing west toward Main

TRED Study - Environmental Scan Windshield Survey
Photo Log

Photo: 49
Date: 8/1/06
Location: MT 16
Approx MP: 42.5
Viewing Dir: N/NE
Description: Park at Mill in Plentywood – ownership unclear

Photo: 50
Date: 8/1/06
Location: MT 16
Approx MP: 42.5
Viewing Dir: E
Description: Viewing east along MT 16 from Mill Dr., Plentywood

Photo: 51
Date: 8/1/06
Location: MT 16
Approx MP: 42.5
Viewing Dir: W
Description: Creek crossing at Mill Dr (Boxelder Creek)

Photo: 52
Date: 8/1/06
Location: MT 16
Approx MP: 42
Viewing Dir: W
Description: Viewing west along MT 16 at Robert St, Plentywood

Photo: 53
Date: 8/1/06
Location: MT 16
Approx MP: 42
Viewing Dir: S
Description: Fueling station near Monroe St., Plentywood

Photo: 54
Date: 8/1/06
Location: MT 16
Approx MP: 1
Viewing Dir: W
Description: V-Trialer (corner of MT 5 and MT 16), Plentywood

Photo: 56
Date: 8/1/06
Location: MT 16
Approx MP: 3.5
Viewing Dir: N
Description: View of highway toward north

Photo: 58
Date: 8/1/06
Location: MT 16
Approx MP: 7
Viewing Dir: NW
Description: Raymond area

TRED Study - Environmental Scan Windshield Survey
Photo Log

Photo: 61
Date: 8/2/06
Location: US 2
Approx MP: 667
Viewing Dir: W
Description: State line along US 2

Photo: 62
Date: 8/2/06
Location: US 2
Approx MP: 663.5
Viewing Dir: N
Description: Farmstead

Photo: 63
Date: 8/2/06
Location: US 2
Approx MP: 662.75
Viewing Dir: N
Description: Farmstead

Photo: 64
Date: 8/2/06
Location: US 2
Approx MP: 661.25
Viewing Dir: N
Description: Fort Union historic marker sign

Photo: 65
Date: 8/2/06
Location: US 2
Approx MP: 659.75
Viewing Dir: W
Description: Landtech Corp #101 – tank farm – 3 in area

Photo: 67
Date: 8/2/06
Location: US 2
Approx MP: 656
Viewing Dir: W
Description: Railroad adjacent to highway, MP 656-646

Photo: 68
Date: 8/2/06
Location: US 2
Approx MP: 645.75
Viewing Dir: W
Description: View into Culbertson, Montola Growers on left

Photo: 69
Date: 8/2/06
Location: US 2
Approx MP: 645
Viewing Dir: W
Description: Culbertson

TRED Study - Environmental Scan Windshield Survey
Photo Log

Photo: 72
Date: 8/2/06
Location: US 2
Approx MP: 645
Viewing Dir: W
Description: Culbertson just east of MT 16 junction

Photo: 73
Date: 8/2/06
Location: US 2
Approx MP: 645
Viewing Dir: W
Description: Junction with MT 16, Culbertson

Photo: 74
Date: 8/2/06
Location: US 2
Approx MP: 645
Viewing Dir: N
Description: Park area at northwest corner of MT 16 and US 2, Culbertson

Montana Department of Transportation
Helena, Montana 59620

:emorandum

o: Dick Turner, Chief, Multimodal Planning
Hal Fossum, Economist Planner
Jean Riley, P.E., Chief, Environmental Services

:om: Steve Platt, Archaeologist
Environmental Services

ate: July 12, 2006

Subject: **TRED Study environmental review – Montana 16 and US 2**

This memo is written to provide some cultural resource input for the above planning project. I used 1:100,000 scale BLM topographic maps, the maps provided to me by Jean Riley, and my own archaeological experience in eastern Montana to compile the following information.

Montana has been inhabited by people since the end of the Pleistocene- the last large glacial episode on this continent. People have had about 11,000 years to leave archaeological remains across Montana. In that time, they have created a lot of sites. MDT can expect there to be dozens of archaeological sites within the proposed corridor, many of them significant to our understanding of local and regional prehistory.

I would expect to see stone circle sites (tipi ring sites) along the margins of the glacial potholes between Plentywood and the Canadian line. Between Plentywood and Medicine Lake Highway 16 follows the eastern side of the Big Muddy Valley where we are likely to find multiple stone circle sites and perhaps a bison kill or two along the valley wall, depending on its steepness. Where the road crosses perennial tributaries of Big Muddy we should expect to find several buried campsites. Buried campsites can be particularly important archaeologically because cultural materials are almost always better preserved in buried rather than surface contexts.

I expect less in the way of prehistoric archaeology from Medicine Lake to Culbertson, simply based on the flatter, drier, terrain. The exception to this is within the three or four miles of the corridor north of Culbertson. There may be both stone circle sites and/or bison kills north of Culbertson in the breaks leading down toward the Yellowstone.

From Culbertson east along Highway 2 the road follows Clover Creek and then crosses Shotgun Creek, Red Bank Creek, and then Little Muddy. Again we can expect to find buried campsites in the alluvial soils along the margins of these creeks.

In addition to archaeological resources we can expect to find historic homesteads and ranches within the proposed corridor, as well as historic buildings within the towns of Plentywood, Antelope, Medicine Lake, and Culbertson.

Assiniboine and Sioux members of the Fort Peck Indian Reservation will undoubtedly have an interest in some or all of the prehistoric sites I have discussed above. They likely continue to pursue a variety of traditional uses (plant gathering, hunting, religious practice, etc...) within the corridor as well. I am also certain that the Fort Peck Tribes will have a vested interest in Montana 16 and Highway 2 expansion from an economic perspective.

Should MDT decide to pursue expansion of the Montana 16 and US 2 facilities MDT will need to proceed with a full blown cultural resource inventory, archaeological testing, and requisite consultation with the Fort Peck Tribes.

Cc: Bonnie Steg, Supervisor, Resources & Permitting

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
BILLINGS REGULATORY OFFICE
2602 FIRST AVENUE NORTH, ROOM 309
BILLINGS MT 59101

Please reply to attention of:

June 26, 2006

Billings Regulatory Office
Phone (406) 657-5910
Fax (406) 657-5911

RE: TRED Study
Corps File No. 200690476

Montana Department of Transportation
Attention: Ms. Jean Riley
Post Office Box 201001
Helena, Montana 59620-1001

Dear Ms. Riley:

Reference is made to your letter regarding the TRED Study for Sheridan and Richland Counties, Montana.

Under the authority of Section 404 of the Clean Water Act, Department of the Army permits are required for the discharge of fill material into waters of the United States. Waters of the United States include the area below the ordinary high water mark of stream channels and lakes or ponds connected to the tributary system, and wetlands adjacent to these waters.

Based on the information provided, the project area may contain jurisdictional waters of the U.S., which may trigger permitting requirements. It is impossible to advise you on likely permitting scenarios without detailed information pertaining to the project corridor and the scope of project impacts.

When final design has been completed, please submit plans and a joint application to this office, along with project drawings and photographs of the proposed sites. Please also include an inventory of aquatic resources, including wetlands that may be affected by this project. The application can be downloaded from http://www.nwo.usace.army.mil/html/od-rmt/applications.html, or one can be mailed to you upon request. When the application is complete, a determination will be made as to whether or not authorization will be granted.

If you have any questions, please call me at the Billings office at (406) 657-5910, and reference File No. 200690476.

Sincerely,

Shannon Johnson

Shannon Johnson
Project Manager

Montana Fish, Wildlife & Parks

June 22, 2006

1420 E. Sixth Avenue
P.O. Box 200701
Helena, Montana 59620-0701

Jean Riley
Montana Department of Transportation
2701 Prospect Avenue
P.O. Box 201001
Helena, Montana 59620-1001

TRED Study
Theodore Roosevelt Expressway
Montana 16-Canada Border to Culbertson
& Culbertson to ND Border

Dear Jean:

The Montana Department of Fish, Wildlife & Parks has reviewed the information submitted regarding your study efforts along the identified corridor. Thank you for the opportunity to provide comments.

Development along rivers and streams can adversely affect or destroy the waterway or adjacent riparian areas. Current development practices can and are causing excessive and unnecessary damage to the banks, beds, and protective vegetation of the state's streams and rivers. The state has a duty to protect the integrity of its rivers and streams on behalf of all its citizens, and it is imperative that Best Management Practices be incorporated into construction plans and projects be designed to maintain and safeguard our natural aquatic and riparian habitats. To that end, the following recommendations are offered to protect these important areas.

a. Development plans should first incorporate a design that avoids direct adverse impacts to these resources. If conditions are such that direct adverse impacts cannot be avoided, project features should be designed to minimize impacts. Unavoidable adverse impacts should be mitigated.
b. Ephemeral, intermittent and perennial stream systems cross the study corridor. All efforts should be taken during pre-design through construction phases to assure uninterrupted passage of a stream's discharges to maintain the natural channel pattern, dimension and profile and temporal characteristics. These stream systems are readily observable on the maps and aerial photos provided or by a site visit.
c. Riparian areas adjacent to these drainages should also be protected to the maximum extent practicable. If such areas cannot be avoided or will be notably be degraded in scope or quality, they should be mitigated on site and in kind. This may require MDT to develop procedures that allow the re-establishment of stream systems and riparian areas outside of existing rights-of-way.

d. If crossings are necessary, bridges are preferred over culverts as bridges usually result in less adverse impact to a stream's features, functions, dynamic processes and its adjacent riparian habitat less than a culvert at the same location. Installation of culverts may or may not require site-specific mitigation. In general, culverts should be embedded and lengths minimized where feasible.
e. If not already done so, the USFWS should be notified regarding any concerns related to Medicine Lake National Wildlife Refuge.

Thank you for the opportunity to provide comments and please contact me if you have any questions.

Sincerely,

doug mcdonald

Doug McDonald
Stream Protection Coordinator
Habitat Protection Bureau/Fisheries

Copy: FWP Region 6 – Bill Wiedenheft
DEQ – Jeff Ryan
COE – Allan Steinle

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8, MONTANA OFFICE
FEDERAL BUILDING, 10 West 15th Street, Suite 3200
HELENA, MONTANA 59626

RECEIVED
JUL 7 2006

Ref: 8MO

July 7, 2006

Post-it® Fax Note 7671	Date 7-7-06	# of pages ▶ 20
To Don Galligan	From Hal Fossum	
Co./Dept. HDR	Co. MDT	
Phone #	Phone # 406-444-6116	
Fax # 208-387-7100	Fax #	

Mr. Dick Turner, Chief, Multi-Modal Planning
Montana Dept. of Transportation
2701 Prospect Ave., P.O. Box 201001
Helena, MT 59620-1001

Re: EPA Comments on TRED Study Scan

Dear Mr. Turner:

The Environmental Protection Agency (EPA) Region VIII Montana Office was not able to attend the June 23, 2006 TRED Corridor Study environmental review session, however, we have received information on the TRED Study including a set of maps showing the proposed study area along Montana Highway 16 from the Canada border to the Port of Raymond to the intersection with US Highway 2 at Culbertson; and from that intersection east along US 2 to the North Dakota state line, and want to offer input in response to your request.

We have not reviewed the proposed TRED Study area in the field, and cannot at this time provide much site-specific guidance regarding environmental issues in the area, but we want to draw your attention to a document that we drafted entitled, *"Guidance/Measures to Reduce Environmental Impacts of Highway Projects"* (see copy attached). This document was drafted in association with interagency discussions for development of an improved ecosystem approach for transportation project development. It is intended to identify general environmental issues and concerns with highway projects, as well as potential mitigation measures to minimize and reduce impacts. Ms. Jean Riley, of the Montana Dept. of Transportation Environmental Services Bureau, has reviewed and offered input on this draft document. This document may be of interest and helpful in identifying environmental issues as you proceed with this TRED Corridor Study.

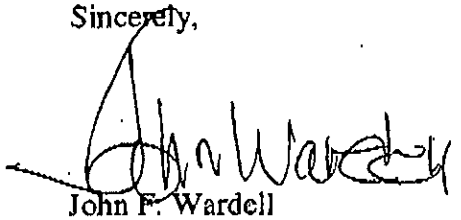
One of the more significant environmental issues is likely to be potential impacts to aquatic areas, including wetlands, particularly if widening of the existing roadway to four lanes is proposed. As noted in our draft *Guidance,* Clean Water Act Section 404 Dredge and Fill Permit rules and policies require that adverse impacts to aquatic resources be avoided and minimized, and only the least environmentally damaging alternative to aquatic resources may be permitted, so long as that alternative does not have significant adverse environmental consequences (40 CFR 230.10a).

It will be important, therefore, for proposed highway improvements along Montana Highway 16 and US Highway 2 to avoid and minimize adverse impacts to aquatic resources. There may be potential concerns about development of a four lane highway in the proposed study area if aquatic areas would be adversely affected by highway expansion, and adverse effects were not justified by the project purpose and need. It is important that existing and future traffic volumes demonstrate a need for a four-lane highway to justify potential adverse impacts, and allow a Section 404 Dredge and Fill permit to be issued in conformance with regulatory requirements.

We note that when an EIS was prepared to evaluate alternative highway improvements along US Highway 2 east of Havre, Montana in 2004, it was found that the two-lane highway alternatives fulfilled the project purpose and need with fewer adverse environmental impacts than the four-lane alternatives. In addition, the two-lane alternatives were substantially less costly, and an economic analysis referenced in that EIS reported that capacity improvements to U.S. 2 were unlikely to induce development, and none of the alternatives would create substantial growth in the economy of the area. The four-lane alternatives, therefore, offered no improvement to the regions economy and potential for future growth over the improved two-lane alternatives, and would cost substantially more with greater environmental effects. These results may offer implications and guidance relevant to the proposed TRED Corridor Study.

If you have any questions or if we may provide further information regarding this project plese contact Mr. Steve Potts of my staff in Helena at (406) 457-5022 or in Missoula at (406) 329-3313 or via e-mail at potts.stephen@epa.gov . Thank you for your consideration.

Sincerely,



John F. Wardell
Director
Montana Office

Enclosure

cc: Larry Svoboda/Julia Johnson, EPA, 8EPA-N, Denver
Allan Steinle/Todd Tillinger, COE, Helena
Jean Riley, MDOT, Environmental Services Bureau

DRAFT

Guidance/Measures to Reduce Environmental Impacts of Highway Projects

Water Quality/Aquatics

-Roadway siting, construction, operation, and maintenance can impact streams, wetlands and riparian areas due to stream/riparian/floodplain encroachment, runoff, disruption of drainage patterns, stockpiling of materials in staging areas, maintenance of construction and maintenance equipment, and snow plowing and sanding of roads or use of salt and deicers. Road projects should be planned, designed, constructed and maintained to avoid or have minimal long-term water quality impacts. Water quality protection measures should be identified in the NEPA document.

Sediment & Erosion Control

-It is important to reduce and control erosion and sediment transport during construction, and to plan and design highways to minimize pollutant loading from highway runoff through use of appropriate BMPs. Highway projects are regulated through MPDES/NPDES Permits to authorize discharge of pollutants through stormwater runoff. Such permits include the requirement to prepare a Storm Water Pollution Prevention Plan (SWPPP), which identifies BMPs for erosion control and management of stormwater runoff, and include a provision that no unnecessary operation of equipment occur within the channels of creeks and rivers to mitigate water quality impacts.
http://www.deq.state.mt.us/wqinfo/MPDES/swPermits/2002ConstGenPermit/FinalConstPermit02.pdf#xml=http://search2.discoveringmontana.com/cgi-bin/texis.cgi/webinator/search/xml.txt?query=BMPs+for+highway+construction&pr=DEQ&prox=page&rorder=500&rprox=500&rdfreq=500&rwfreq=500&rlead=500&sufs=0&order=r&cq=&id=43574f6d1

Stream/Riparian/Floodplain Encroachment

-Highway planning and design should avoid/minimize highway encroachment upon, or disturbance to natural stream hydrology, stream banks and channels, riparian areas, wetlands, and floodplains. Natural stream characteristics and hydrology should be maintained and preserved, and the natural and beneficial effects of riparian areas and floodplains should be restored and/or protected.

-Stream channel modifications should be avoided. If there is absolutely no way to avoid impacts to the stream channel, channel changes should be planned and designed to

simulate natural stream channel dimensions and length, while incorporating natural aquatic habitat features (riffle, pool, run) as much as possible. It is preferable to restore channel length and natural riffle/pool sequences without installation of artificial grade control structures, although if channel length cannot be restored, grade control structures may be necessary to maintain channel stability. Aquatic biologists and staff with training and knowledge of fluvial geomorphology be consulted during design of stream channel modifications, with appropriate permits and authorizations obtained (404 permits, 401 certification, 310 or 124 permits, short-term turbidity exemptions, tribal permits, etc.,).

Stream Crossings (Bridges and Culverts)

-Replace or widen existing bridges wherever possible; incorporate wildlife crossing features for passage underneath the roadway while minimizing impacts on streams and wetlands; design culverts to accommodate flood flows and enhance fish passage; replacing culverts with bridges where possible; adding culverts to improve hydrologic connections and reduce potential for flooding; and removing and restoring existing roadways where a new roadway corridor is created.

-Assure that the bridge and culvert designs accommodate flood flows with no substantial changes to flood elevations. Bridges should have adequate size, configuration and span to reduce floodplain encroachment (e.g., construction of bridges on pilings, as opposed to fill, can reduce encroachment), and should match hydraulic traits of the natural stream, while minimizing disturbance to stream hydrology, banks and channel, and encroachment upon the river channel, riparian area, and floodplain. Stream crossings should be able to pass flood flows and bedload, maintaining the integrity and continuity of the floodplain as well as the actual channel to avoid impeding flood flows that could cause sediment deposition above stream crossings and erosion and scouring below crossings. Culverts should simulate the natural stream grade and stream bed substrate as much as possible (open bottom arch culverts to provide a natural streambed preferred), and have sufficient width and capacity to pass flood flows and bedload transport with minimal encroachment upon the river channel and riparian area. Bridges with wide spans also afford opportunities for wildlife passage, and reduce wildlife-vehicle collisions.

- Stream crossings should provide for fish passage, http://www.hsus.org/wildlife/issues_facing_wildlife/wildlife_crossings_wild_animals_and_roads/

-Stream crossing construction work should be conducted during periods of low stream flow to avoid spawning and incubation periods for important fish, and should avoid and/or minimize impacts on the stream channel during construction. Special care should be taken to avoid or minimize impacts to riparian vegetation and avoid riparian degradation and siltation of the creek as much as possible during construction, with restoration and revegetation of disturbed stream banks and riparian areas following construction.

Road Maintenance

-Maintenance activities such as application of herbicides, mowing, and winter maintenance such as snowplowing and application of sand, salt, and chemical deicers have the potential to introduce sediment, materials and chemicals either directly or indirectly to a stream and associated riparian and wetland resources. Maintenance operations should be conducted in a manner that minimizes adverse impacts to streams and wetlands. Practices of expediently sidecasting material over the shoulder, filling depressions and widening shoulders can have adverse effects upon streams, wetlands, and riparian areas, and are inappropriate. Snow plowing and subsequent to sanding moves sand off the roadbed to the adjacent ditch line and fill slopes, filling depressions and ditches and widening shoulders, which can have adverse effects upon streams, wetlands, and riparian areas. Impacts of winter maintenance activities are more a matter of a long term indirect and cumulative effects than any one incident.

-BMPs for maintenance operations should be used such as using mechanical brooms to pick up sand; using sediment traps, straw bales, silt fences, and vegetative filters near streams and wetlands to capture sediment before it can enter streams and wetlands; reuse of sanding material; etc,.

-Training available for road maintenance crews regarding conduct of road maintenance in a manner that protects streams and wetlands (contact, Montana Local/Tribal Technical Assistance Program at Montana State University, Steven J. Jenkins, P.E, at 406-994-6100 or 1-800-541-6671).

-When winter highway maintenance activities potentially affect streams and wetlands the effects of the maintenance program should be disclosed in the NEPA document, including measures to mitigate effects on waters of the United States (mitigation means avoid and minimize adverse effects, and compensation for unavoidable effects).

303(d) Listed Waters & TMDLs

-Highway improvements should not further degrade water quality impaired waters listed by the Montana DEQ under Section 303(d) of the Clean Water Act, and should be consistent with Total Maximum Daily Loads (TMDLs) and Water Quality Restoration Plans (WQRPs) prepared to restore beneficial use support for impaired waters. If additional pollutant loading is predicted to occur to a 303(d) listed stream as a result of a highway project, the project should include measures to control existing sources of pollution to offset pollutant addition from road construction, so that no worsening of water quality occurs.
-MDT/FHWA should contact the Montana Department of Environmental Quality to ensure MDEQ concurrence on, and coordination of proposed activities with the MDEQ's TMDL development for impaired 303(d) listed water bodies. MDT/FHWA should work

with the MDEQ as it develops Total Maximum Daily Loads (TMDLs) and associated water quality restoration plans for 303(d) listed streams in the project area to seek opportunities for water quality restoration (e.g., contact Robert Ray at 444-5319, Jeff Ryan at 444-4626, Mark Kelley at 444-3508). On Tribal lands, contact the Tribe's environmental office to identify impaired water bodies and any applicable TMDL/Water Quality Restoration Plans (e.g., on Flathead Reservation contact Paula Webster at 406-883-2888).

-Where appropriate consider conduct of watershed or aquatic habitat restoration activities to compensate for past impacts of highways to aquatic resources, particularly in watersheds with 303(d) listed waters where highways may have contributed to aquatic impairments through past channelization, riverine or floodplain encroachments, sediment delivery during construction, continuing maintenance activities, and other activities that may have affected channel stability, water quality, aquatic habitat, and designated waterbody uses.

Impacts to Waters of the U.S., including Wetlands, and Clean Water Act Section 404 Permits

-Project planning and design should avoid and minimize impacts to waters of the U.S., including wetlands, as much as possible, and the NEPA document should discuss planning and design measures to avoid and minimize impacts to wetlands (i.e., include draft 404(b)(1) analysis in the NEPA document). Clean Water Act Section 404 Dredge and Fill Permit rules and policies for placement of fill material in waters of the U.S., including wetlands, should be followed. These rules require that adverse impacts to aquatic resources be avoided and minimized as much as possible, and that only the least damaging practicable alternative to aquatic resources be permitted, so long as that alternative does not have other significant adverse environmental consequences (40 CFR 230.10(a)).

-Project purpose and need should be concurred upon by the Corps of Engineers and other agencies involved in the 404 regulatory process. Highway project purpose and need should be demonstrated from a traffic and volume standpoint to avoid unnecessary impacts to aquatic resources.

-Identify impacts to wetlands with acreages and impacts to wetlands functions, including direct and indirect impacts (i.e., unavoidable impacts from road construction, including gravel mining or excavation of borrow material, stockpiling of materials in staging areas and disposal of waste materials; reasonably foreseeable impacts from induced growth; etc,). MDT should oversee the construction contractor to assure that environmentally sensitive areas are avoided when obtaining material sources and during excavation/fill operations. Unavoidable impacts to wetlands or other aquatic areas during project construction (from material source sites or other reasons) need to be authorized through 404 permits.

-Plan wetland mitigation to compensate for unavoidable wetland losses. The goal of wetland mitigation should be to replace the functions of lost wetlands in areas adjacent to or as close as possible to the area of wetlands loss. EPA/Corps policy has accepted acre-for-acre replacement of wetlands as a surrogate for replacement of functions when there is a lack of definitive information on functions, although adjustments may be necessary to reflect the expected degree of success of mitigation, and provide an adequate margin of safety (i.e., greater than acre-for-acre replacement is suggested when impacted wetlands have high function and likelihood of replacement is low). Mitigation should look at on-site compensation first, then off-site; in-kind then out-of-kind.

-Prepare detailed Wetland Mitigation Plan providing for adequate replacement of lost wetland functions when a final preferred alternative is identified. This Plan should be approved by the appropriate agencies before implementation of the proposed project. If land acquisition for wetland mitigation is needed, we encourage negotiations for such acquisition concurrent with negotiations for acquisition of acquisition of road right of ways. The Wetland Mitigation Plan should contain a statement of goals, a monitoring plan, long-term management/protection objectives and a commitment to conduct additional work, if required, to meet the goals of the Plan. A summary or outline of the Wetland Mitigation Plan should be included in the FEIS (as an appendix), and we encourage consultation with the Montana Interagency Highway Wetlands Group for wetland mitigation efforts to facilitate interagency agreement on the proposed mitigation plan for replacement of wetland functions. We note that excavation of borrow material to meet construction needs may provide an opportunity for wetland mitigation (i.e., wetland creation).

-The Army Corps of Engineers, U.S. Fish & Wildlife Service, EPA, Montana Dept. of Fish, Wildlife and Parks and Montana Dept. of Environmental Quality and appropriate Tribal authorities should all be contacted to assure that proper authorizations and permits are obtained prior to construction (e.g., 404 permits, 310 or 124 permits, short term turbidity exemptions, tribal permits, etc.,). We suggest contacting Todd Tillinger of the Corps of Engineers in Helena at 406-441-1375; Jeff Ryan of the MDEQ at 406-444-4626; and Scott Jackson of the USFWS in Helena at 406-449-5225, and Toney Ott of EPA at 303-312-6909. Many Tribes have local ordinances designed to protect water quality (e.g., Aquatic Lands Conservation and Shoreline Protection Ordinances and on the Flathead Reservation, http://www.cskt.org/tr/nrd.htm). Tribal governments should be contacted to obtain necessary Tribal permits (on the Flathead Reservation call the Natural Resources Department at 406-883-2888).

Wildlife

-The quality and capacity of wildlife habitat, known wildlife corridors/trails, and usage by wildlife near proposed highway projects should be evaluated. Direct and indirect (e.g., induced growth, noise, etc.,) effects of new highway alignments or widening of existing roads upon wildlife should be evaluated (including increased mortality from higher traffic levels, loss of habitat, reduced access to available habitat, blockage of

migration and travel corridors, effects on biodiversity). Existing wildlife mortality and wildlife-vehicle accident history should be evaluated to show where there is a need to develop additional road improvements to deter wildlife crossing and/or decrease wildlife-vehicle collisions, and focus the location of additional design measures to reduce risks of animal-vehicle collisions. Wider highways, particularly a divided four-lane highway, will have a wider crossing distance for terrestrial wildlife to contend with, and will likely be a greater barrier to species movement across the highway, increasing wildlife fragmentation and reducing wildlife connectivity. Such effects should be minimized, and unavoidable effects to wildlife mitigated as much as possible.

-Mitigation measures should be incorporated into the project to reduce impacts to wildlife habitat, and connectivity/fragmentation impacts, and risks of vehicle-wild animal crashes. Estimated reductions in impacts to wildlife from proposed mitigation should be disclosed. Increased sight distance with clear zone improvements help drivers avoid crossing wildlife and may decrease animal related accidents. Wildlife is often attracted to and follow drainages, so bridge structures for wildlife passage should be considered in areas where there is high wildlife use and history of animal-vehicle collisions. The mitigation sections should include analysis of the extent to which stream crossings can be modified to also serve as wildlife crossings to reduce wildlife mortality, connect habitat areas, and reduce traffic accidents (assuming stream crossings coincide with areas where there is wildlife movement or an opportunity to reduce mortality rates). Use replacement or modification of existing or proposed bridges as opportunities to include design provisions to facilitate safer wildlife crossing and reduce wildlife-vehicle accidents (e.g., assuring that bridges are wide enough to span upland area as well as wetted areas to enable movement for terrestrial wildlife species). Crossings should be of sufficient width, contain minimal dark passages, and consider use of wing guide fencing in appropriate locations to help direct wildlife to safer crossings of the highway. Information regarding wildlife and highway conflicts and mitigation may be available on websites, for example: http://www.fhwa.dot.gov/environment/wildlifecrossings/overview.htm ; www.berrymaninstitute.org ; http://www.hsus.org/wildlife/issues_facing_wildlife/wildlife_crossings_wild_animals_and_roads/ ;

Threatened and Endangered Species

- If the proposed activities could affect threatened or endangered species (e.g., bull trout, grizzly bear, bald eagle, lynx, gray wolf, etc,), the NEPA document should include the Biological Assessment and the associated U.S. Fish and Wildlife Service (FWS) Biological Opinion or formal concurrence for the following reasons:

(1) NEPA requires public involvement and full disclosure of all issues upon which a decision is to be made;
(2) The CEQ Regulations for Implementing the Procedural Provisions of NEPA strongly encourage the integration of NEPA requirements with other

environmental review and consultation requirements so that all such procedures run concurrently rather than consecutively (40 CFR 1500.2(c) and 1502.25); and

(3) The Endangered Species Act (ESA) consultation process can result in the identification of reasonable and prudent alternatives to preclude jeopardy, and mandated reasonable and prudent measures to reduce incidental take. These can affect project implementation.

-Both the Biological Assessment and the EIS must disclose and evaluate the potential impacts of the proposed action on listed species. They can jointly assist in analyzing the effectiveness of alternatives and mitigation measures. The full disclosure mandate of NEPA suggests that consultation be instigated as soon as possible. Thus, the final EIS and Record of Decision should not be completed prior to the completion of ESA consultation. Treating the consultation process as a separate parallel process that is not closely involved with the NEPA process represents a risk because during the consultation, FWS could identify additional impacts, new mitigation measures, or changes to the preferred alternative. If these changes have not been evaluated in the final EIS, a supplement to the EIS could be warranted.

Biodiversity

-Biodiversity may be a critical consideration for new projects, major construction or when special habitats (i.e., wetlands, springs, fens, threatened and endangered species habitat) will be affected. The state of the art for this issue is changing rapidly. CEQ prepared guidance entitled, "Incorporating Biodiversity Considerations Into Environmental Impact Analysis Under the National Environmental Policy Act," http://www.eh.doe.gov/nepa/tools/guidance/Guidance-PDFs/iii-9.pdf

Indirect Effects/Quality of Life/Smart Growth

-CEQ's regulations for implementing NEPA state that an EIS should include disclosure of: "Indirect effects and their significance (40 CFR 1502.16(b))." Indirect effects are defined as "...caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include **growth-inducing effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.**" (40 CFR 1508.9(b))

--New highway construction that improves traffic flow and eliminates congestion can increase access and contribute to induced residential, commercial, industrial growth, and changed land uses. Increased rates of growth and land use changes caused by a highway project, constitute indirect effects that should be evaluated. Induced residential, commercial, and industrial growth and land use change affect air quality, water quality, wetlands, wildlife habitat loss and fragmentation, urban sprawl, loss of rural character, farm land, ecosystems, and other natural resources. Road building and expansion often

result in induced growth effects (sprawl), and stimulate increased use of privately owned vehicles and vehicle miles traveled. This, in turn, leads to increased auto dependency and demand for more roads. These types of indirect effects and appropriate mitigation measures need to evaluated and disclosed in the EIS (i.e., identify existing condition and trends and forces shaping growth and development in the area; identify land with development potential and most likely locations of growth; identify sensitive environmental resources that may be impacted; estimate growth and impacts with and without project).

-CEQ regulations also state that an EIS should include the "means to mitigate adverse environmental effects." (40 CFR 1502.16(h)) This provision applies to indirect effects as well as direct effects. Since the CEQ regulations require an analysis of indirect effects, the best time to identify such effects is prior to impacts, when there is better opportunity to avoid, minimize or mitigate for them. Much of the mitigation for indirect effects is subject to regulation by the city/county in which the highway will be constructed. If analysis of indirect induced growth effects occurs before the highway project is completed, the city/county will be in a better position to effectively plan for future growth and develop mitigation measures for the impacts resulting from induced growth. The EIS should serve the function of offering the city/county adequate notice of the foreseeable environmental consequences, thus providing the opportunity to plan and implement corrective measures, if needed, in a timely manner.

-The EIS can identify potential mitigation techniques for induced growth and associated environmental effects, such as:

-access controls (location of interchanges)
-context sensitive designs
-local land use plans that affect or regulate new development
-zoning controls
-transfer of development rights
-growth management regulation (public facilities ordinances, development moratoria, urban growth boundaries, extraterritorial zoning/annexation)
-resource management and preservation regulations
-land acquisition and conservation easements
-incentives for Brownfields/infill development
-development fees and exactions.
-Analysis of indirect effects should not rely solely on compliance with existing comprehensive land use plans. While comprehensive land use plans are an important component of the analysis of indirect effects, compliance with these plans could still result in adverse environmental effects.

Smart Growth

Encourage planners and decision makers to consider effects of infrastructure

development, including transportation improvements, on growth patterns, and to plan and coordinate infrastructure improvements with land use planning to direct growth to desired areas, and away from environmentally sensitive areas. Sustainable solutions to transportation problems are more likely to be realized by focusing on longer-term approaches that provide increased transportation choices (multi-modal mobility), that bring people to the activities or the activities to the people (accessibility), that foster community vitality, environmental justice, and quality of life (livability), and that meet our social, economic, and ecological needs without compromising the ability of future generations of all species to do likewise (sustainability). Planners and decision makers should consider opportunities to reduce transportation demand, and where demand exists, address the real and underlying transportation need: to move people and goods not necessarily cars.
http://www.fhwa.dot.gov/planning/sgindex.htm
http://www.epa.gov/smartgrowth/

-Provide analytical support for community-generated ideas, and explore multi-faceted solutions. It may be possible to combine several ideas/alternatives that, collectively, will address the project need. A package of alternatives could include alternative transportation modes, trip reduction, land use adjustments, parking controls, pricing mechanisms, other incentives and/or disincentives, new route design or traffic circulation patterns, and more.

-Transportation demand management should be evaluated. Include transportation demand management (trip reduction) and transportation system management (TDM and TSM) in all projects and alternatives, with the greater emphasis upon TDM. An array of travel alternatives, roadway use options such as carpool lanes, financial incentives, work hours and location management options exist, and more ideas are being generated. Land use strategies, such as mixed use and transit oriented development, also serve to curb travel demand.

-Maximize the use of existing infrastructure. Prevent further habitat degradation, fragmentation, and loss by making better use of existing transportation infrastructure. For example, emphasize use of existing rights-of-way, improving existing rail lines, roads, and trails, and better integrate existing transportation infrastructure with land use planning. Actions such as re-striping pavement to provide bike lanes, peak hour lane conversion for high occupancy vehicles (HOV), and transit priority/preference techniques such as traffic signal override and synchronization, are easy, inexpensive innovations that can make a difference in traffic flow and livability.

-Consider redevelopment. Redevelopment prevents sprawl and protects farms, forests, and natural lands by making better use of existing developed areas and urban space. It can also exert a positive influence on the surrounding community. Businesses thrive when they are located in attractive settings that are accessible to pedestrians, bicyclists, and public transportation; communities develop when people get out of their cars; and the

amenities provided by the natural environment, farmlands, and rural areas remain intact.

Cumulative Effects

-NEPA requires that cumulative impacts be addressed as a summary of the individual impacts of this and all other past, present, and "reasonably foreseeable" future plans and actions, regardless of what agency (Federal or non-Federal) or person undertakes such actions. This should include identification of all the direct and indirect effects that are known, and a good faith effort to explain the effects that are not known but are reasonably foreseeable.

-In January 1997 the President's Council on Environmental Quality (CEQ) published, "*Considering Cumulative Effects Under the National Environmental Policy Act*", guidance that provides a framework for analyzing cumulative effects http://ceq.eh.doe.gov/nepa/ccenepa/ccenepa.htm. In May 1997 EPA published a document entitled, "*Consideration of Cumulative Effects in EPA Review of NEPA Documents.*" This document can be found at, http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf . The California DOT also has developed good guidance for cumulative effects analysis, http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm.

The cumulative effects analysis should:

1) Identify the area in which effects of the proposed project will be felt and existing conditions and trends.

2) Determine resources within the project impact area that could be affected by the highway project, particularly the resources most likely to be significantly impacted and the geographic areas in which those resources are located; and the condition of such resources (i.e., the extent to which they are degraded). Use appropriate analysis area boundaries for the resource and time period over which the cumulative effects have occurred or will occur. In most cases, the largest of these areas will be the appropriate area for analysis of cumulative effects. The selection of geographic boundaries should be, whenever possible, based on the natural boundaries of resources of concern (e.g., watershed boundary for water quality issues). The temporal scope requires estimating the length of time that effects of the proposed action singly or in combination with other anticipated actions will last and be significant to the resources of concern. The period of time that the proposed action's impacts persist can extend beyond the project life. The analysis should extend until the resources have recovered from the impact of the proposed action.

3) Identify impacts that are expected to resources of concern from the proposed project through analysis of cause-and-effects relationships. Knowing how a particular resource responds to environmental change (cause-and-effect relationship) is essential for

determining the cumulative effects of multiple actions. Cause-and-effect pathways should be identified to understand how the resources respond to environmental change (i.e., what the effect is). The cause-and-effect relationships for each resource should be understood to determine the magnitude of the cumulative effect resulting from all actions included in the analysis.

4) Identify other actions -past, present, and reasonably foreseeable future actions- that have had or are expected to have impacts in the same area, and the impact or expected impacts from these other actions. Even unrelated actions conducted on by other agencies or persons on all land ownerships, if they contribute to cumulative effects on a resource, should be incorporated into the analysis. A common inadequacy of documents is the lack of analysis or disclosure of the sum of individual effects of all projects on the local environment. A summary listing of other projects occurring in the vicinity without the accompanying analysis is insufficient. The identification of the effects of past actions is critical to understanding the environmental condition of the area. The EIS should consider how past and present activities have historically affected and continue to affect the resources, ecosystems, and communities of concern. Linked Developments - If the construction of a new road or reconstruction of an existing road will likely facilitate or cause additional developments, the effects of these linked impacts must also be analyzed. The concept of a baseline or environmental reference condition against which to compare predictions of the effects of proposed actions and reasonable alternatives is critical to the NEPA process. The baseline condition of the resource of concern should include a description of how conditions have changed over time and how they are likely to change in the future with and without the proposed action.

It is also important to incorporate future actions of agencies and the public into cumulative impact analyses. Good cumulative effects analysis requires close coordination among agencies and the public to ensure that all past, present and reasonably foreseeable future actions are considered. Reasonably foreseeable future actions need to be considered even if they are not specific proposals. The criterion for excluding future actions from analysis whether they are "speculative." In general future actions can be excluded from the analysis of cumulative effects if: a) the action is outside the geographic boundaries or time frame established for the cumulative effects analysis; b) the action will not affect resources of concern that are the subject of the cumulative effects analysis; and c) including the action would be arbitrary.

5) Determine the overall cumulative impacts that can be expected if the individual impacts are allowed to accumulate, and provide comparisons of cumulative impacts for the proposed actions and the reasonable alternatives in relation to the no action alternative and/or an environmental reference point. The analyses should provide a clear basis for choice among options by the decision maker and the public.

6)Identify mitigation measures where appropriate to reduce adverse cumulative effects. Monitoring should be put in place to evaluate predictions and mitigation effectiveness.

Air Quality

-Impacts of highway alternatives on air quality must be analyzed and disclosed, and quantified where possible. Existing air quality and meteorological monitoring data should be presented, as well as needed data gathering to adequately perform air quality analysis and any monitoring proposed. The primary issue of concern is motor vehicle emissions on air quality and their impact on 1) non-attainment areas; 2) Class I areas; and 3) areas where an air quality standard could be violated by increases in emissions due to increased motor vehicle use facilitated by completion of the project or the impact of not building a highway or transit project.

-The air quality analysis must demonstrate that the proposed alternative would not cause or contribute to any violations of the National Ambient Air Quality Standards, that it will not cause the air quality to degrade by more than any applicable PSD (Prevention of Significant Deterioration) increment, and that it will not cause or contribute to visibility impairment.

- Whether or not the project causes a violation of the NAAQS a thorough analysis of the impacts must be completed for the purpose of informing the public about environmental and health impacts and for use as a decision making tool.

-The following discussion presents the general criteria by which an EIS dealing with mobile sources is evaluated for air quality impacts. This discussion presents the areas to be considered rather than the details of the analysis.

1) A description of the existing air quality should be presented, including the study areas designation of attainment or non-attainment of National Ambient Air Quality Standards (NAAQS). Particular attention should be given to any areas along the corridor where people live near the highway (within 1000 feet) or where schools, hospitals, or elderly care facilities are near the facility. Residents and sensitive populations may be adversely impacted now or in the future and this should be discussed or the absence of these conditions should be noted.

2) A localized analysis of pollutants particularly carbon monoxide (CO) and PM-10 is required. For CO the eight-hour standard of 9 ppm is the controlling standard. However, it is useful to provide both one-hour and eight-hour concentrations. This analysis is required and should be proportional to the scope of the project. Until an EPA approved PM10 hotspot method is approved, a qualitative assessment for PM10 hotspots is acceptable.

3) Areawide analysis should be done for CO, PM_{10} (emissions and particulates made airborne from automobile use), and Volatile Organic Compounds as well as any other criteria pollutants or hazardous pollutants which may be affected by the

project. This analysis may not be necessary if the project is included in the State Implementation Plan (SIP) emission inventory.

4) The analysis should include a comparison of the "No Build" and all Build alternatives for existing conditions, worst case conditions, and the design years.

5) The traffic analysis should show the project's impact on average daily traffic, VMT, and speeds. The assumed population growth used to project traffic volumes should be identified to assure consistency with the population projections in the SIP.

6) Construction impacts and appropriate control measures to be taken should be discussed.

7) Monitoring should be conducted at areas of maximum concentration to which the public may be exposed. Air quality monitoring should be discussed with appropriate State, Tribal and/or EPA air quality staff (40 CFR Part 58 provides monitoring guidance).

8) An appropriate model should be used, based on the project scope. MOBILE 6.2 is the most recent mobile source emission factor model released by EPA.

9) A determination of whether the project conforms to the State Implementation Plan is required in Section 176(c) of the Clean Air Act (as amended November 15, 1991).

10) An assessment of mobile source air toxics (MSATs) must be included. Each project must be considered individually regarding the level of MSAT analysis. But in general a discussion of MSATs, their probably health effects, the quantitative (or in some cases qualitative) emission trends, likely receptors (nearby homes, businesses, schools), and sensitive populations impacted by MSATs (schools, hospitals, elder care facilities) near the proposed facilities. For many projects in Montana, the impact of MSATs will be negligible since receptors must be within 1000 feet to have an impact, this can be noted as a reason for a minimal assessment of MSAT impacts.

Section 176(c) of the Clean Air Act

-The analysis must describe any state or local air quality regulations or State Implementation Plan (SIP) requirements covering specific activities occurring as part of the project construction and/or implementation, and how compliance with those regulations or requirements will be achieved.

-The conformity provisions of the Section 176(c) of the Clean Air Act requires that all

federal actions conform to existing State Implementation Plans (SIP's), and prohibits federal agencies from taking any action that causes or contributes to a new violation of the NAAQS, increases the frequency or severity of an existing violation, or delays the timely attainment of a standard. Under section 176(c), the federal agency responsible for a proposed action is required to determine if its action will conform to the applicable SIP before the final EIS is completed. The final rule on the conformity provision can be found in 40 CFR Parts 51 and 93.

-If you have questions regarding air quality analysis please contact Mr. Jeffrey Kimes at EPA's Denver Office at 303-312-6445. Bob Habeck of MDEQ at 444-7305 is a Montana DEQ contact on Clean Air Act issues; and Betsy Wahl of EPA (Helena) at 457-5013 is an EPA Montana Office contact for Clean Air Act issues.

Weed Management

-Noxious weeds tend to gain a foothold where there are ground disturbances such as construction. The potential for spread of noxious weeds during road construction should be evaluated, and weed spread avoided/minimized with development of a weed management program that includes measures to prevent and control weed invasion. Disturbed areas should be revegetated (reseed with native grass mix), and where no native, rapid cover seed source exists, we recommend using a grass mixture that does not include aggressive grasses such as smooth brome, thereby allowing native species to eventually prevail. Mr. Phil Johnson, Botanist, Montana Dept. of Transportation, in Helena at 406-444-7657, may be able to provide guidance on revegetation with native grasses.

-We encourage prioritization of management techniques that focus on non-chemical weed control first, with reliance on chemicals being the last resort, since weed control chemicals can be toxic and have the potential to be transported to surface or ground water following application. Early recognition and control of new infestations is encouraged to stop the spread of the infestation and avoid wider future use of herbicides, which could correspondingly have more adverse impacts on water quality, fisheries, and biodiversity

-It is important that the water contamination concerns of herbicide usage be fully evaluated and mitigated. All efforts should be made to avoid movement or transport of herbicides into surface waters that could adversely affect fisheries or other water uses. Herbicides, pesticides, and other toxicants and chemicals must be used in a safe manner in accordance with Federal label instructions and restrictions that allow protection and maintenance of water quality standards and ecological integrity, and avoid public health and safety problems.

-Herbicide applicators should be advised of the potential for runoff of herbicides at toxic concentrations into the streams. The applicators should take precautions during spraying (e.g., applying herbicide only after careful review of weather reports to ensure minimal

likelihood of rainfall within 24 hours of spraying; special precautions adjacent to the stream to reduce runoff potential; etc.). It should be unequivocally stated that no herbicide spraying will occur in streams and wetlands or other aquatic areas (seeps, springs, etc.,). Herbicide drift into streams and wetlands could adversely affect aquatic life and wetland functions such as food chain support and habitat for wetland species. Streams and wetlands in any area to be sprayed should be identified and flagged on the ground to assure that herbicide applicators are aware of the location of wetlands, and thus, can avoid spraying in or near wetlands.

Plant seeds can be carried from a source area by the wind, wildlife, livestock, pack animals, or on equipment tires and tracks, by water, and on the boots of construction workers. Care should be taken to implement control procedures to avoid weed spread. Measures for preventing spread from source areas to uninfested areas include:

- Ensure that equipment tracks and tires are cleaned prior to transportation to an uninfested site.
- Focus control efforts on transportation corridors to prevent tracking of seed into uninfested areas.
- Attempt to control the spread from one watershed to another to reduce water as a transport vector.
- If a localized infestation exists and control is not a viable option, consider rerouting roads around the infestation to reduce available vectors for spread.
- Establish an education program for industrial and recreational users and encourage voluntary assistance in both prevention and control activities.
- Reseed disturbed sites as soon as possible following disturbance.

http://ceq.eh.doe.gov/nepa/regs/eos/eo13112.html

Sole Source Aquifers

Direct and indirect effects of highway projects to sole source aquifers should be evaluated and disclosed (such as the Missoula Valley Aquifer, which is the only sole source aquifer currently designated in Montana under the Safe Drinking Water Act). No commitment for Federal financial assistance may be entered into for any project that EPA determines may contaminate a designated sole source aquifer through a recharge zone so as to create a significant hazard to public health. See
http://ceq.eh.doe.gov/nepa/regs/sdwa.html
http://www.co.missoula.mt.us/wq/

EPA, MDEQ and Missoula Valley Water Quality District requirements may be necessary to assure protection of the Missoula Valley Sole Source Aquifer. There may some trade-offs in considering appropriate BMPs for management and treatment of stormwater runoff in regard to whether pollutants are delivered to surface waters or ground water. For example, use of revegetated swales to manage runoff may be more protective of groundwater, but may not reduce pollutant delivery to surface waters as well as dry wells. Also, there are some filter type BMP's which are fairly good at removing pollutants, but

have more intensive maintenance needs. We encourage review and evaluation of such trade-offs as stormwater runoff BMPs are evaluated. There is a need to prevent degradation of both the Missoula Valley Sole Source Aquifer as well as surface waters.

Diversion of runoff to the floodplain and use of dry wells (or infiltration trenches) may be potential mitigation methods to manage stormwater runoff to reduce effects to the Missoula Valley Sole Source Aquifer. The floodplain can act as a grassed infiltration basin as long as the floodplain will hold the runoff until it can slowly infiltrate to groundwater and avoid being directed into nearby surface water bodies. If this mitigation method were to be utilized, and because the risk of groundwater contamination increases in very coarse soil types, the EPA would recommend that a detailed analysis of the soil type and the depth to the Missoula Valley Aquifer in the floodplain area be determined. Dry wells can also be an effective way to remove contaminants from stormwater runoff; however, if this mitigation method were used then the EPA would recommend that a regular dry well inspection and maintenance schedule and groundwater monitoring be performed.

Some websites that provide information on stormwater BMPS include, http://www.cabmphandbooks.com/ and http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/_pdfs/new_technology/CTSW-RT-01-050.pdf.

Wild & Scenic Rivers

-Direct and indirect effects of highway projects to designated wild & scenic rivers should be evaluated and disclosed, and efforts should be made to avoid and minimize adverse effects to wild & scenic rivers as much as possible.
http://ceq.eh.doe.gov/nepa/regs/scenicrivers.html

Farmland

-Direct and indirect effects to prime or unique farmland and farmland of statewide importance should be evaluated and disclosed, and efforts should be made to avoid and minimize adverse effects to such farmland as much as possible.
http://www.eh.doe.gov/nepa/tools/guidance/Guidance-PDFs/iii-3-1.pdf
http://ceq.eh.doe.gov/nepa/regs/exec81180.html

Historic Sites

-Direct and indirect effects to historic/archaeological/cultural resources should be evaluated and disclosed, and efforts should be made to avoid/minimize adverse effects to historic/archaeological/cultural resources as much as possible. The State Historic Preservation Officer and appropriate Tribal Cultural Resources staff should be consulted.
http://environment.fhwa.dot.gov/histpres/index.htm

Section 4(f) Sites

-Direct and indirect effects to Section 4(f) properties should be evaluated and disclosed (this includes any significant publicly owned public park, recreation area, or wildlife and waterfowl refuge and any land from an historic site of national, state or local significance), and feasible and prudent alternatives should be evaluated to minimize harm to such properties. See http://environment.fhwa.dot.gov/projdev/4fpolicy.htm . An FHWA Memorandum that discusses constructive use of Section 4(f) lands is available at http://environment.fhwa.dot.gov/guidebook/vol2/doc15i.pdf .

Underground Storage Tanks

-If the highway project may impact underground storage tanks along the project corridor, contact Ms. Andreas Hochhalter of the Montana Dept. of Environmental Quality in Helena at 406-444-1416 for further information regarding requirements relative to road construction work impacts on underground storage tanks.

Superfund Sites

-If highway projects will encroach upon sites on the State Superfund list (Montana Comprehensive Environmental Cleanup and Responsibility Act, CECRA) we suggest that you contact Ms. Denise Martin of the Montana Dept. of Environmental Quality in Helena at 406-444-5060 for further information, and contact Mr. John Wardell of EPA in Helena at 406-457-5001 regarding potential impacts on CERCLA Federal Superfund sites..

Lead-Based Paint

-If a bridge painted with lead-based paint is going to be torn down and replaced, identify if the existing bridge will be refurbished with lead based paint removed. If lead based paint stays on the steel girders the girders may be disposed of as scrap metal (i.e., there is an exemption for construction debris coated with lead based paints). However, if the old lead based paint is to be removed from the bridge via scraping or sandblasting, the scraping or sandblasting residue will have to be characterized to determine if it is a regulated hazardous waste (most likely with Toxicity Characteristics Leaching Procedures or TCLP). Bridge construction techniques that capture sandblasting residue may be needed. Contact Mr. Bob Reinke of the Montana Dept. of Environmental Quality in Helena at 406-444-1435 for further information on hazardous waste identification and disposal requirements. Mr. Bruce Cooper of EPA in Denver at (303) 312-6028 is an EPA contact on lead toxicity issues. Also, OHSA requirements for worker protection should be followed.

Asbestos

-If the highway project may impact abandoned commercial, agriculture and residential structures within the project area that may contain asbestos, contact Mr. John Podolinsky of the Montana Dept. of Environmental Quality in Helena at 406-444-2690 for further information on any requirements for road construction work that may impact structures that may contain asbestos. Mr. Robert Vick of EPA in Denver is a contact for asbestos toxicity issues at (303) 321-6204.

Noise

-Direct and indirect noise effects should be evaluated and disclosed, and efforts should be made to avoid and minimize noise effects as much as possible.
http://www.fhwa.dot.gov/environment/noise/

Environmental Justice

-Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," requires that Federal agencies make environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health and environmental effects of its programs, policies, and activities on minority populations and low-income populations. The Executive Order makes clear that its provisions apply fully to Native Americans. Avoid disproportionately high and adverse human health and environmental effect on minority or low income populations. CEQ guidance for incorporating environmental justice considerations under NEPA are shown at this website http://ceq.eh.doe.gov/nepa/regs/ej/justice.pdf ; and FHWA environmental justice guidance is available at,
http://www.fhwa.dot.gov/environment/ej2.htm .

Pollution Prevention

Pollution Prevention, also known as "source reduction," is any practice which reduces, eliminates, or prevents pollution at its source. By reducing the total amount of pollution that is produced, there is less waste to control, treat, or dispose of, and there are less hazards posed to public health and the environment. As Benjamin Franklin once said, "an ounce of prevention is worth a pound of cure." We raise the pollution prevention issue here in a general manner to simply note that there is a national policy directed at reduction of pollution, recycling, and conservation of resources. Under Section 6602(b) of the Pollution Prevention Act of 1990, Congress established a national policy that organizes preferences for pollution prevention:

- Pollution should be **prevented** or **reduced** at the source whenever feasible (i.e. increase

efficiency in use of raw materials, energy, water, etc.);
- Pollution that cannot be prevented should be **recycled** in an environmentally safe manner whenever feasible;
- Pollution that cannot be prevented or recycled should be **treated** in an environmentally safe manner whenever feasible;
- **Disposal** or other **release** into the environment should be employed only as a last resort and should be conducted in an environmentally safe manner

CEQ guidance for incorporating pollution prevention into NEPA is available at, http://ceq.eh.doe.gov/nepa/regs/poll/ppguidnc.htm).

The Montana State University-Extension Service in Bozeman has initiated development of a Montana Pollution Prevention program to provide information to businesses and industries in Montana regarding waste reduction, pollution prevention, and recycling (see website http://www.montana.edu/wwwated/links.htm). We encourage you to contact Mr. Michael Vogel at the MSU-ES Pollution Prevention Program at (406) 994-3451 or at <mvogel@montana.edu> to seek new ideas and technology.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
MONTANA FIELD OFFICE
585 Sheppard Way
HELENA, MT 59601
PHONE (406) 449-5225, FAX (406) 449-5339

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA COUNTIES*
Endangered Species Act

August 2006

C = Candidate
LT = Listed Threatened
LE = Listed Endangered
PCH = Proposed Critical Habitat
CH = Designated Critical Habitat
XN = Experimental non-essential population

*Note: Generally, this list identifies the counties where one would reasonably expect the species to occur, not necessarily every county where the species is listed

County/Scientific Name	Common Name	Status
BEAVERHEAD		
Thymallus arcticus	Montana Arctic Grayling	C
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Canis lupus	Gray Wolf	XN
BIG HORN		
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
BLAINE		
Scaphirhynchus albus	Pallid Sturgeon	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
BROADWATER		
Haliaeetus leucocephalus	Bald Eagle	LT
Canis lupus	Gray Wolf	XN
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Lynx canadensis	Canada Lynx	LT
CARBON		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	XN
Lynx canadensis	Canada Lynx	LT
Mustela nigripes	Black-footed Ferret	LE
CARTER		
Haliaeetus leucocephalus	Bald Eagle	LT

County/Scientific Name	Common Name	Status
Mustela nigripes	Black-footed Ferret	LE
CASCADE		
Haliaeetus leucocephalus	Bald Eagle	LT
Lynx canadensis	Canada Lynx	LT
CHOUTEAU		
Scaphirhynchus albus	Pallid Sturgeon	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
Lynx canadensis	Canada Lynx	LT
CUSTER		
Scaphirhynchus albus	Pallid Sturgeon	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Sterna antillarum athalassos	Interior Least Tern	LE
Mustela nigripes	Black-footed Ferret	LE
Grus americana	Whooping Crane	LE
DANIELS		
Haliaeetus leucocephalus	Bald Eagle	LT
DAWSON		
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Grus americana	Whooping Crane	LE
DEER LODGE		
Thymallus arcticus	Montana Arctic Grayling	C
Haliaeetus leucocephalus	Bald Eagle	LT
Canis lupus	Gray Wolf	LE, XN
Salvelinus confluentus	Bull Trout	LT, CH
FALLON		
Haliaeetus leucocephalus	Bald Eagle	LT
Grus americana	Whooping Crane	LE
FERGUS		
Scaphirhynchus albus	Pallid Sturgeon	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
Lynx canadensis	Canada Lynx	LT
FLATHEAD		
Salvelinus confluentus	Bull Trout	LT, CH
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Silene spaldingii	Spalding's Campion	LT
Canis lupus	Gray Wolf	LE
Lynx canadensis	Canada Lynx	LT, PCH
GALLATIN		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Zaitzevia thermae	Warm Spring Zaitzevian Riffle Beetle	C
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Canis lupus	Gray Wolf	XN
Lynx canadensis	Canada Lynx	LT
GARFIELD		

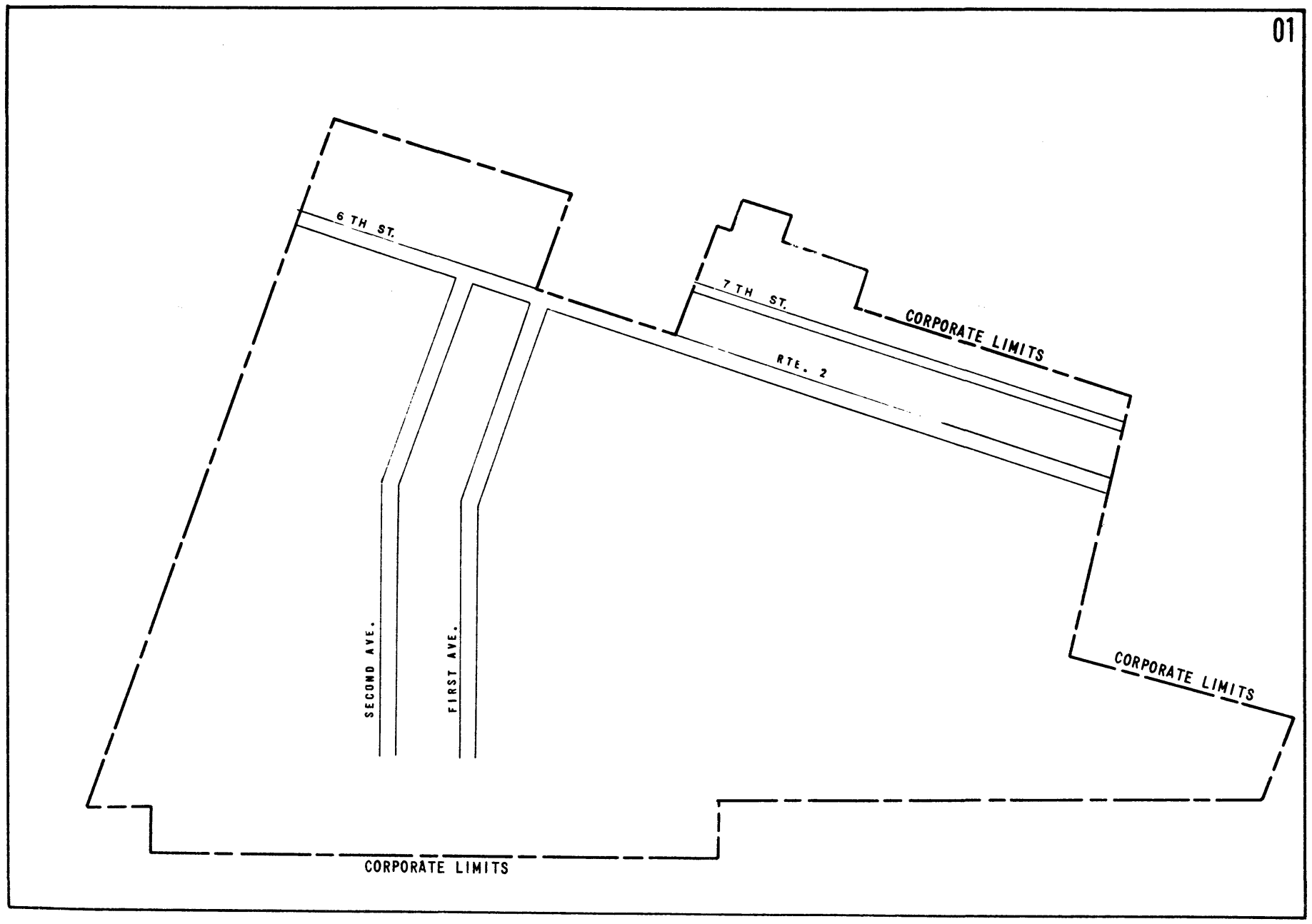
County/Scientific Name	Common Name	Status
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
GLACIER		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	LE
Lynx canadensis	Canada Lynx	LT, PCH
Salvelinus confluentus	Bull Trout	LT, CH
Botrychium lineare	Slender Moonwort	C
GOLDEN VALLEY		
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
Lynx canadensis	Canada Lynx	LT
GRANITE		
Haliaeetus leucocephalus	Bald Eagle	LT
Canis lupus	Gray Wolf	LE, XN
Lynx canadensis	Canada Lynx	LT, PCH
Salvelinus confluentus	Bull Trout	LT, CH
HILL		
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
JEFFERSON		
Haliaeetus leucocephalus	Bald Eagle	LT
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Canis lupus	Gray Wolf	LE, XN
Lynx canadensis	Canada Lynx	LT
Mustela nigripes	Black-footed Ferret	LE
JUDITH BASIN		
Haliaeetus leucocephalus	Bald Eagle	LT
Lynx canadensis	Canada Lynx	LT
LAKE		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Howellia aquatilis	Water Howellia	LT
Silene spaldingii	Spalding's Campion	LT
Canis lupus	Gray Wolf	LE
Lynx canadensis	Canada Lynx	LT, PCH
Salvelinus confluentus	Bull Trout	LT, CH
Botrychium lineare	Slender Moonwort	C
LEWIS AND CLARK		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	LE, XN
Lynx canadensis	Canada Lynx	LT, PCH
Salvelinus confluentus	Bull Trout	LT, CH
Mustela nigripes	Black-footed Ferret	LE
LIBERTY		

County/Scientific Name	Common Name	Status
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
LINCOLN		
Acipenser transmontanus	White Sturgeon (Kootenai River Pop.)	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Silene spaldingii	Spalding's Campion	LT
Canis lupus	Gray Wolf	LE
Lynx canadensis	Canada Lynx	LT, PCH
Salvelinus confluentus	Bull Trout	LT, CH
Howellia aquatilis	Water Howellia	LT
Botrychium lineare	Slender Moonwort	C
MADISON		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Spiranthes diluvialis	Ute Ladies' Tresses	LT
Canis lupus	Gray Wolf	XN
Lynx canadensis	Canada Lynx	LT
McCONE		
Scaphirhynchus albus	Pallid Sturgeon	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Mustela nigripes	Black-footed Ferret	LE
Grus americana	Whooping Crane	LE
MEAGHER		
Haliaeetus leucocephalus	Bald Eagle	LT
Lynx canadensis	Canada Lynx	LT
MINERAL		
Haliaeetus leucocephalus	Bald Eagle	LT
Canis lupus	Gray Wolf	LE
Lynx canadensis	Canada Lynx	LT
Salvelinus confluentus	Bull Trout	LT, CH
MISSOULA		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Howellia aquatilis	Water Howellia	LT
Canis lupus	Gray Wolf	LE, XN
Lynx canadensis	Canada Lynx	LT, PCH
Salvelinus confluentus	Bull Trout	LT, CH
Coccyzus americanus	Yellow-billed cuckoo (western pop.)	C
MUSSELSHELL		
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
PARK		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	XN
Lynx canadensis	Canada Lynx	LT
PETROLEUM		

County/Scientific Name	Common Name	Status
Scaphirhynchus albus	Pallid Sturgeon	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
PHILLIPS		
Scaphirhynchus albus	Pallid Sturgeon	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Charadrius melodus	Piping Plover	LT, CH
Mustela nigripes	Black-footed Ferret	LE, XN
Grus americana	Whooping Crane	LE
PONDERA		
Charadrius melodus	Piping Plover	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	LE
Lynx canadensis	Canada Lynx	LT, PCH
Haliaeetus leucocephalus	Bald Eagle	LT
POWDER RIVER		
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
POWELL		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	LE, XN
Lynx canadensis	Canada Lynx	LT, PCH
Salvelinus confluentus	Bull Trout	LT, CH
PRAIRIE		
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Mustela nigripes	Black-footed Ferret	LE
Haliaeetus leucocephalus	Bald Eagle	LT
RAVALLI		
Haliaeetus leucocephalus	Bald Eagle	LT
Canis lupus	Gray Wolf	XN
Salvelinus confluentus	Bull Trout	LT, CH
Coccyzus americanus	Yellow-billed cuckoo (western pop.)	C
RICHLAND		
Scaphirhynchus albus	Pallid Sturgeon	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
ROOSEVELT		
Scaphirhynchus albus	Pallid Sturgeon	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Charadrius melodus	Piping Plover	LT, CH
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
ROSEBUD		
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
Sterna antillarum athalassos	Interior Least Tern	LE

County/Scientific Name	Common Name	Status
SANDERS		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	LE
Lynx canadensis	Canada Lynx	LT
Salvelinus confluentus	Bull Trout	LT, CH
Botrychium lineare	Slender Moonwort	C
SHERIDAN		
Charadrius melodus	Piping Plover	LT, CH
Grus americana	Whooping Crane	LE
Haliaeetus leucocephalus	Bald Eagle	LT
SILVER BOW		
Thymallus arcticus	Montana Arctic Grayling	C
Haliaeetus leucocephalus	Bald Eagle	LT
Canis lupus	Gray Wolf	LE, XN
Salvelinus confluentus	Bull Trout	LT
STILLWATER		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	XN
Lynx canadensis	Canada Lynx	LT
Mustela nigripes	Black-footed Ferret	LE
SWEET GRASS		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	XN
Lynx canadensis	Canada Lynx	LT
Mustela nigripes	Black-footed Ferret	LE
TETON		
Haliaeetus leucocephalus	Bald Eagle	LT
Ursus arctos horribilis	Grizzly Bear	LT
Canis lupus	Gray Wolf	LE
Lynx canadensis	Canada Lynx	LT, PCH
TOOLE		
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
TREASURE		
Haliaeetus leucocephalus	Bald Eagle	LT

County/Scientific Name	Common Name	Status
VALLEY		
Scaphirhynchus albus	Pallid Sturgeon	LE
Charadrius melodus	Piping Plover	LT, CH
Mustela nigripes	Black-footed Ferret	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Haliaeetus leucocephalus	Bald Eagle	LT
Grus americana	Whooping Crane	LE
WHEATLAND		
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
Lynx canadensis	Canada Lynx	LT
WIBAUX		
Haliaeetus leucocephalus	Bald Eagle	LT
Scaphirhynchus albus	Pallid Sturgeon	LE
Sterna antillarum athalassos	Interior Least Tern	LE
Grus americana	Whooping Crane	LE
YELLOWSTONE		
Haliaeetus leucocephalus	Bald Eagle	LT
Mustela nigripes	Black-footed Ferret	LE
Grus americana	Whooping Crane	LE



KEY TO MAP

Zone Designations

ZONE C
ZONE A
ZONE C

Elevation Reference Mark — $RM7_X$

Zone D Boundary ——————→ — — —

River Mile — •M1.5

EXPLANATION OF ZONE DESIGNATIONS

ZONE	EXPLANATION
A	Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
B	Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood.
C	Areas of minimal flooding.
D	Areas of undetermined, but possible, flood hazards.
V	Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.

NOTES TO USER

INITIAL IDENTIFICATION:
MARCH 29, 1974
FLOOD HAZARD BOUNDARY MAP REVISIONS:
DECEMBER 19, 1975
FLOOD INSURANCE RATE MAP EFFECTIVE:
MAY 15, 1986
FLOOD INSURANCE RATE MAP REVISIONS:
NONE

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program, at (800) 638-6620.

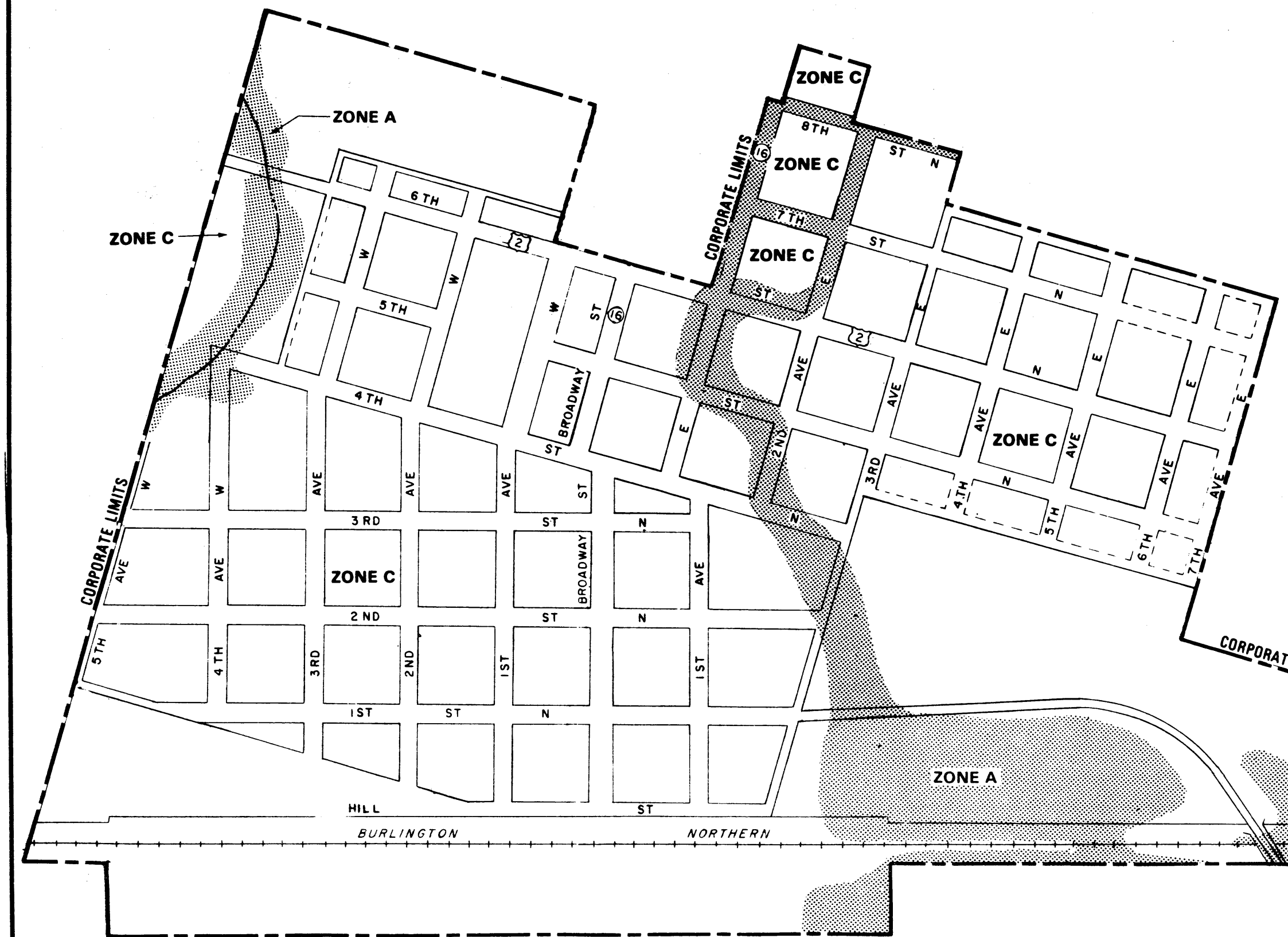
FEDERAL EMERGENCY MANAGEMENT AGENCY

FLOOD INSURANCE RATE MAP
PANEL(S) 01

MAP INDEX

TOWN OF CULBERTSON, MT
(ROOSEVELT CO.)

COMMUNITY NO. 300067 B



APPROXIMATE SCALE
0 250 500 1000 1500 FEET

EFFECTIVE DATE:
MAY 15, 1986

FLOOD INSURANCE RATE MAP

FEDERAL EMERGENCY MANAGEMENT AGENCY

TOWN OF CULBERTSON, MT
(ROOSEVELT CO.)

01